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ABSTRACT

A study investigated whether reading comprehension would improve if children were made aware of story grammar and were asked schema-related questions. Subjects were 33 fifth grade students, half scoring on or above grade level and half scoring below grade level on the reading section of the Metropolitan Achievement Tests. During 11 sessions, 45 minutes each, students were introduced to the concepts and categories of story grammar: setting, initiating events, responses, reactions, outcomes, theme, plot, and characterization. Students learned to identify the various story categories by analyzing nine short stories, completing a story structure chart, and composing a story element to fit the category highlighted at each session. Pretest and posttest scores on a story grammar criterion test were subjected to a repeated measures analysis of variance, with sex and reading achievement as independent variables. The high level reading group went from a pretest mean of 3.29 wrong to a posttest mean of 1.4 wrong; the low reading group went from a pretest mean of 3.44 wrong to a posttest mean of 2.41 wrong. The program appeared, therefore, to benefit the high achievement groups more than the low. There was no indication that sex was a factor. The results suggest that when story grammar is taught with story schema related questions, reading comprehension improves. The technique, however, needs to be refined to benefit children of lower reading achievement and expanded for application to other types of prose. (Materials used in the study are appended.) (HTH)

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DOES THE TEACHING OF "STORY SCHEMA" AND THE USE OF SCHEMA RELATED QUESTIONING IMPROVE READING COMPREHENSION?

A Thesis

Presented to

Dr. Joan Feeley of the Graduate School

William Paterson College

In Partial Fulfillment

of the Requirements for the Degree

Master of Education

by

Lois Golub Turetzky

May 1982

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CS 007 429

ABSTRACT

DOES THE TEACHING OF "STORY SCHEMA" AND THE USE OF SCHEMA RELATED QUESTIONING IMPROVE READING COMPREHENSION?

The Problem and Its Significance to the Reading Field

Comprehension can be thought of as the meaningful interpretation of the written word as it relates to the reader's cognitive structure. To understand comprehension it is important to become aware of the significance of "schema theory" and the cognitive processes of recall.

The importance of improving reading comprehension can not be emphasized enough. It is the responsibility of every educator to foster the development of reading comprehension. The continuous search for better methodologies prevail. This research paper sought to investigate the concept of story grammar as it relates to schema theory. If this study adds to the accumulating literature by showing that comprehension may be improved if children are directly made aware of story grammar and if teachers use schemata related questions, then perhaps these strategies in reading instruction should be more widely adopted.

Procedures

The subjects were 33 fifth grade students all of Hispanic background. They made up one of five fifth grade classes in a school population of approximately 1,055. The school is located in the Bronx, near the Yankee Stadium. It has an ethnic make up of 68% Hispanic, 30% Black and 2% other. According to the Metropolitan Achievement Test, approximately half were on or above grade level in reading (classified as "high") and half were below

grade level (classified as "low").

The students met for a total of eleven forty-five minute sessions over a four week period of time. They were introduced to the concepts and categories of story grammar as defined by researchers such as Stein and Glenn and Mandler and Johnson. Operationally, story grammar refers to the basic structural components of story i.e. setting, initiating events, responses, reactions, outcomes, theme, plot, and characterization. Students learned to identify the various story categories by analyzing nine short stories used in the reported research of Stein and Glenn, Mandler and Johnson and Judith Whaley. Besides completeing a story structure chart, the students composed a story element to fit the category being highlighted each session.

Results

To see if the story grammar lessons were effective, pre-post test scores on a story grammar criterion test ("Albert Gets Caught") were subjected to an analysis of variance, repeated measure design, with sex and reading achievement as independent variables.

According to the ANOVA source information table, only the difference from pre- to post test was significant, F (1, 29) = 32.31, p .001. The main effect of level of reading achievement was approaching significance at the .06 level. The high group went from a pre test mean of 3.29 wrong to a post test mean of only 1.4 wrong; the low group went from a pre test mean of 3.44 wrong to a post test mean of 2.41 wrong. The program appeared to benefit the high achievement groups more than the low. Sex, which was considered, was not a factor.

Conclusions and / or Implications

The conclusions that can be drawn from this study are:

1. When story grammar is taught with story schema related questions, reading comprehension improves.

2. Children with higher reading achievement levels seem to do better with the "story schema" approach than children with lower levels of reading achievement. Thus, to develop and refine comprehension of narratives, it is recommended that:

1. Teachers should become familiar with the ideas of story grammar and apply these concepts to everyday teaching of reading.

2. Writing skills be integrated in the story grammar methodology. Students sense the relationship between writing and reading as they deal with story structure, and this internalization may have an overall positive effect on the total reading process.

3. Further research in the area of story grammar be encouraged. The grammar must be expanded so that it can be applied to various types of prose.

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CHAPTER 1

THE PROBLEM

There is more to comprehension then just understanding a word or sentence (Glenn, 1980). Comprehension involves a complex cognitive process which is related to an individual's cognitive domain.

Comprehension in the general sense is "the reduction of uncertainty through the elimination of alternatives by allocation of a statement to a particular cognitive structure" (Smith, 1971, p.192).

Sir Fredrick Bartlett (1932) developed the idea of schema as it relates to the cognitive processes of understanding and recall and has set the stage for current research in the field of cognitive psychology and reading comprehension.

Schema, according to Winograd (1977):

> ...can be thought of as economical structures for storing memories of objects and events (including discourse events). An individual object or event is represented by a combination of a reference to one or more appropriate schemas and a description of the additional details which are true of that individual and are not derivable from the more general schema (p.74).

In applying the concept of schema to story comprehension Rumelhart (1975), Mandler and Johnson (1977), Glenn and Stein (1978), and others have developed story grammars. The application of the concept of schemata and "story schema" will be the focus of this research.

Purpose of the Study

The need to improve and understand the process of reading comprehension is one of the most important aspects of reading instruction. Any methodology which can improve reading is worth investigating. Therefore, it is the purpose of this study to investigate what effect the teaching of modified "story schema" and schema related questioning have on reading comprehension.

Statement of the Problem

Will the teaching of modified "story schema" and the use of schema related questioning improve children's reading comprehension of simple classic narrative stories and fables?

Hypothesis

It is hypothesized that the comprehension of fifth grade students of average reading ability will improve after being taught "story schema" as measured by a teacher designed comprehnsion test of a simple narrative story.

Definitions

In this paper, these terms are defined as follows:

1. Schema: According to Rumelhart (1980), "Schema is a data structure for representing our knowledge about all concepts: those underlying objects, structures, events, sequences of events, actions and sequences of actions" (p.5).
2. "Story Schema" as used by Mandler and Johnson (1977) "refers to an idealized internal representation of the parts" (p.111).

3. Story grammar refers to the basic rules regarding the structural components of the story. It includes the settings initiating events, attempts, responses, reactions, outcomes and also the theme, plot and goals of the characters.

Limitations

1. This study is limited by its sample size of 33 fifth grade students in an inner-city, low socio-economic school population. This small sample limits the generalizability of the findings.

2. The use of the same pre-and posttest in the repeated measures analysis of variance design threatens internal validity. For example, students may perform better on the posttest as a result of having seen the pretest. Other factors include the maturation of the subjects, instrumentation, the selection of subjects and interaction among factors.

Significance of the Study

The need to improve reading comprehension is a major responsibility of reading instruction Smith(1973) and Pearson & Johnson (1978). If this study adds to the accumulating literature by showing that comprehension may be improved if children are directly made aware of story grammar and if teachers use schemata related questions, then perhaps these strategies in reading instruction should be more widely adopted.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter will review literature relating to the development of the schemata theory, discuss the developement of the most widely used story grammars, review the research concerning story structure and recall, and demonstrate how "story schema" with appropriate schema related questioning is used to improve comprehension.

Cognitive Psychology and the Schemata Theory

Reading becomes meaningful if there is understanding between the reader and the text. Understanding involves the organization of cognitive structures of knowledge. People respond to various situations based on former experiences (Schank & Abelson, 1977). In the process of understanding, people use two types of knowledge: general and specific. Schank and Abelson (1977) state:

> General knowledge enables a person to understand and interpret another person's actions simply because the other person is a human being with certain standard needs who lives in a world which has certain standard methods of getting those needs fulfilled.... We use specific knowledge to interpret and participate in events we have been through many times (p.37).

It is the interpretations of these experiences which relate to the internal representation of an individual's schema and affect understanding and comprehension.

Ausubel, a cognitive psychologist, believes that:

> ...Meaning is not an implicit response but a clearly articulated and precisely differentiated conscious experience that emerges when potentially meaningful signs, symbols, concepts or propositions are related to and incorporated within a given individual's cognitive structure on a non-arbitrary and substantive basis. The acquisition of new meaning is thus held to be co-extensive with meaningful learning....

Sir Fredrick Bartlett, in his research about how stories are remembered, developed the concept of schemata, a term originally attributed to both Kant and Binet. Bartlett (1932) referred to schemata:

> ...as an active organization of past relations and experiences which are always operating in any well defined organism (p.201).

Bartlett believed that there was a definite interaction and correlation between the processing of new information and an individual's present cognitive structures. The processing of new information alters the original structure.

Reading comprehension is a complex cognitive process which involves the mind's understanding and interpretation of the written text. According to Rumelhart (1980):

> Readers are said to have understood the text when they are able to find a configuration of hypotheses (schemata) which offer a coherent account for the various aspects of the text. To the degree that a particular reader fails to find such configuration, the text will appear disjointed and incomprehensible (p.5).

The Development of Story Grammars

Story grammars, structures or schemas as they may be called, have been developed by (Rumelhart, 1975; Stein & Glenn, 1978, Mandler & Johnson, 1977, Schank & Abelson, 1977: Thorndyke, 1977) and others. Mandler and Johnson (1977) defined "story schema" as:

> ...an idealized internal representation of the parts of a typical story and the relationship among those parts (p.111).

Story grammars according to Stein (1979):

> ...can be described in terms of a tree diagram which is an hierarchial network of story categories and logical relationships which connect them (pp. 264-265).

Generally speaking, a story is composed of several categories. Each category can be individually analyzed in terms of information and function (Stein, 1979). Simple stories are made up of a setting and episode structure. A story has a beginning or initiating event, responses, reactions, attempts, consequences, and outcomes. The terminology varies according to the particular grammar used. Rumelhart's grammar consists of eleven syntactic and semantic interpretation rules. Rumelhart's grammar is limited to simple stories with one setting. His grammar does not allow for beginnings with a change of state or reaction (Peterson, 1979). Rumelhart has also developed rules for a theory concerning structure and summaries of stories. Rumelhart (1975) states:

> Connected discourse differs from an unrelated string of sentences (among other ways) in that it is possible

> to pick out what is important in connected discourse and summarize it without seriously altering the meaning of the discourse. The same is not true of strings of unrelated sentences. Since such strings lack structure and do not make meaningful wnoles they can not be summarized at all (p.220).

This theory is still incomplete and is presently being researched. Rumelhart was one of the first to develop a story grammar. His grammar was considered complex and researchers found it difficult to use when trying to interpret certain kinds of stories and situations within stories. As a result, Glenn & Stein (1978), Mandler & Johnson (1977), and Thorndyke (1977) rewrote the grammar to broaden the scope of their analyses (Stein, 1979).

Mandler and Johnson beside extending the scope of the stories to which their grammar can be applied, also defined the structures in such a way that emphasis is not placed on an individual's intuitive knowledge (Mandler & Johnson, 1977).

The grammar of Mandler and Johnson (1977) consists of six rules. The setting followed by an episode which consists of a beginning, development and ending. Elements within the epidode consist of a reaction, attempt and outcome or ending. The grammar of Mandler and Johnson can accommodate multi-episodic structures.

The Glenn and Stein, (1978) grammar consists of a setting and five categories within the episode: initiating event, internal response, attempt, consequence and reaction. It serves basically the same purposes as the Mandler and Johnson grammar

but differs in terminology and schematic representation.

Schank (1977) developed a grammar based on scripts. He states:

> A script is a structure that describes appropriate sequences of events in a particular context. A script is made up of slots and requirements about what can fill those slots. The structure is an interconnected whole, and what is in one slot affects what can be in another....(p.41).

The script differs greatly from other grammars in that it deals with everyday types of events. The more an individual knows about a particular situation or script the better his comprehension.

The development of story grammars are still in a stage of infancy. Much more research is needed to extend the use of grammars so that they can be applied to more complex story forms.

The Relationship of Story Structure to Recall

Based on the research of Inhelder and Piaget (1958), Ausubel(1964), Anderson (1976), and Rumelhart (1977), Singer and Donlan (1980) state:

> Knowledge of the structure of content areas facilitates comprehension because it provided readers with schemas, which are concepts or ideas for assimilating or categorizing information. Thus, if readers know the structure of a story, they can more readily organize and store incoming information and ideas (p.461).

A good text structure should be both coherent, which involves the relationship of one sentence to another, and cohesive - the relationship to knowledge either within or

outside the text (Frederiksen, 1977). A text that is coherent and cohesive is easier to understand and recall since it helps the reader to relate ideas to each other and to his/her prior knowledge.

In summarizing the psychological research of text structures Goetz and Armbruster (1980) have found:

1. Text represents a higher level of psychological structure or organization than less integrated verbal materials such as collections of sentences of lists of words.
2. Within a text, readers will find some elements more important than others, and, if tested they will be more likely to remember the important elements.
3. The linguistic and extra-linguistic context in which text appears and the knowledge, interests, and perspective of the reader are important determinants of the psychological structure and meaning of the text (pp. 202-203).

To fully comprehend the structure of a text one must consider the microstructure and macrostructure of the text. Microstructure is generally concerned with the analytic interpretation of a sentence into its basic parts. Research conducted by Robertson (1968) Katz & Brent (1968), and Pearson (1974 1975) indicated that comprehension improves with the use of connectives within a sentence (Pearson, 1981). Other research (Combs, 1975) demonstrated that sentence combining had a positive effect on comprehension.

The macrostructure is concerned with the total organization of the text. In understanding story structure and recall one must consider the relationship of the categories within the hierarchical structures of the story. Various

nodes within the hierarchy are structurally more important and will be remembered more easily.

Mandler and Johnson (1977) found that the more a story stays within a well organized structure, the more will be remembered. They also claim that if there is a sequential relationship between the sentences and the "ideal structure" recall will be higher.

Recall is affected by elaboration of nodes, inversions of sequence and ambiguities of the text.

Mandler and Johnson (1977) conducted a study using first grade, fourth grade and university level students to measure immediate and delayed recall of stories. They found that adults recalled more than first and fourth graders respectively. First graders mostly remembered settings, beginnings and outcomes. They had difficulty recalling attempts, endings and reactions. Similar results in recall were obtained from the fourth grade students. Fourth grade students recalled attempts somewhat better than the first graders. All three groups recalled outcomes, and age difference did not seem to be a factor.

This research indicates that young children are aware of story structure and use schema to organize the text for recall of information.

A study conducted by Stein and Glenn (1977) demonstrated results similar to the Mandler and Johnson (1977) study.

In the schema of a story, there is certain information

within each category. Expectations of this information are reflected in recall (Stein & Glenn, 1979). Whaley (1981) states:

> Readers do indeed expect particular structured elements and sequences of elements in simple stories (p.107).

Stein and Glenn (1977) conducted a study which involved a systematic deletion of categories from episodes, The results indicated:

> ...that when initiating events, attempts, and consequences were deleted form a story, the number of new statements included in recall significantly increased in comparison to the control groups. Also, a clear majority of the new information added to recall matched the type of information deleted from the story.... Recall decreased in comparison to a control group when initiating event was deleted from the story. Recall also decreased in the first grade when consequence was deleted (p.279).

Research conducted by Mandler & Johnson (1977), Stein and Glenn (1979), Kintsch and Keenan (1973), Thorndyke (1975). Rumelhart (1975) Van Dijk (1975), and others stressed the relationship of structure to comprehension and memory. A text or story that is well constructed is more easily understood and recalled.

Story Schema and Appropriate Schema Related Questioning Improves Comprehension

The use of questioning to further increase the comprehension of story schema is important to the application of the theory. The proper use of questioning can direct learning

and aid in recall and comprehension.

According to Pearson and Johnson (1978), questions can be textually explicit (information directly stated in the text) or textually implicit (information that is implied and "scriptally" related to an individual's schema.

Questions can be posed before, during and after the reading. Preposed questions, questions asked before the reading, help students direct their reading towards that information. Adjunct questions are questions which are added or integrated within the text. Anderson and Biddle state:

> ...The use of adjunct questions, in general, has a facilitative effect on learning from prose.... The closer the questions are to the information they ask, the higher the performance when those questions are repeated later...(p.489).

Postposed questions, questions asked after the reading can, according to some researchers, aid in general review and recall of information. Other researchers have indicated that students pay more attention to the information following questioning (Singer & Donlan, 1980).

The appropriate use of questioning can influence the direction of the learning and facilitate comprehension. Comprehension questioning directed towards story grammar guides students towards a more internalized understanding of the story schema (Sadow, 1982).

Questions can be designed around the setting, initiating events, attempts, reactions and outcomes. In asking these kinds of questions Sadow (1982) states:

> ...We not only lay the common ground for further discussion and thought, we also display the pattern of relationships that define a story.... Questions derived from story grammar help children understand and enjoy a story on its own terms: other questions must help them to use it to expand their knowledge and insight into human affairs (p.521).

Duell (1977) conducted a study using student generated questions. Anderson (1980) states the results of that study: "Posttest data revealed a significant advantage for the item generating group" (p.489).

Singer and Donlan (1982) used the student generated question technique. They devised schema general questions and taught students how to generate story specific questions. The application of this technique with high school students proved successful. They concluded:

> ...The acquisition of schema general and story specific questions augmented the student's ability to select information to instantiate slots in their knowledge structures and thus significantly enhance their comprehension (p.181).

Summary

Comprehension is the ultimate goal in reading. Understanding the reading process helps reading instructors focus on the aspects of reading instruction which help students better interpret and comprehend the text. We have discussed the literature concerning the schematic theory, story grammars, the effect of story structures on recall, and the appropriate use of story schema questions to enhance comprehension. While much of the schema and story grammar theory is still in an

early stage, the application of these concepts to reading instruction, albeit on an elementary level, has had a positive effect on comprehension.

CHAPTER 111

METHODS AND PROCEDURES

This study was designed to see whether the teaching of story grammar and the use of story schema general questions over selected stories read with fifth-graders would have a positive effect on improving their reading comprehension.

This chapter will describe the subjects, the measuring instrument, the procedures, and how the data were collected and analyzed.

Subjects

Setting

Community Elementary School 114 is located at 1155 Cromwell Avenue, Bronx, New York, in School District Nine. District Nine is located in the West and Central area of the Bronx. Its' 98% Black and Hispanic population makes it one of the largest minority deistricts in the city.

Community Elementary School 114 is situated adjacent to Mullaly Park and the Yankee Stadium on one side and 167th Street and Jerome Avenue around its periphery. The area is depressed with many burnt out buildings. Crime is high and most people in the area receive some form of public assistance.

The school's ethnic population may be described as approximately 68% Hispanic, 30% Black and 2% other. Of the 1,055 children attending the school, about 1,000 students receive free lunch and welfare benefits.

Sample

Thirty-three fifth grade students took part in this research project. There were 12 boys and 21 girls. The students are in an English dominant bilingual class. All students speak Spanish and have Hispanic surnames. Of the thirty-three students, two attend a bilingual remedial reading class. This class meets daily for reading for forty-five minutes.

Table 1

Student High and Low Reading Achievement

	High	Low	Total
Boys	5	7	12
Girls	12	9	21
Total	17	16	

For the purposes of this study, the groups were further divided into high and low reading achievement levels according to scores on the Metropolitan Achievement Test. A score of 4.9 or above represents a high, anything below represents a low. The resulting distribution may be seen in Table 1.

Instruments

Description

A test consisting of twelve multiple choice items emphasizing various story elements was developed by the researcher and other graduate students. The test was based on the story Albert Gets Caught. Its purpose was to assess the subjects ability to comprehend a simple story using story schema related questions. Questions were formulated on the basis of the Singer & Donlan (1982) schema general questions.

The same test will be used as a posttest. See Appendix A.

Validity and Reliability

Graduate reading students in an advanced research seminar helped determine the face and content validity of the test by analyzing the content and wording of the test items and suggested changes where necessary.

Procedures

Description

A class of 33 fifth grade students met for a total of eleven forty-five minute sessions over a four week period of time. They were introduced to the concept of story grammar.

Students were taught the various story categories through the use of the Stein and Glenn (1979) story, Melvin the Skinny Mouse. With the presentation of each new category, students were asked to write an element of story to fit that category. See Appendix D for the categories and F for a sample lesson.

Besides analyzing and parsing the stories, students completed the Dreher & Singer (1980) Story Structure Chart. (Appendix C)

Listed below are the stories read and analyzed:

1. Melvin the Skinny Mouse	Stein & Glenn (1979)
2. The Fox and the Grapes	Aesop
3. The Tiger's Wiskers	Stein & Glenn (1979)
4. The Fox and the Crow	Aesop
5. Epaminondas	Stein & Glenn (1979)
6. Goldilocks	Whaley (1981)
7. The Old Farmer and His Donkey	Mandler & Johnson (1977)
8. Dog Story	Mandler & Johnson (1977)
9. King Story	Mandler & Johnson (1977)

Collection of Data

Thirty-three fifth grade students were given a short narrative story, Albert Gets Caught, and a twelve question multiple choice test based on the story, both before and after the story grammar lessons. Students were instructed to read the story and answer the questions. Students completed the task in approximately twenty minutes. The tests were collected and scored.

Treatment of the Data

The pre- and posttest scores were subjected to repeated measures analysis of variance procedures: Trials x Sex x Reading Achievement. The significance level was set at the .05 level.

Summary

The setting, sample size, instruments, validity, reliability, procedures and the collection and treatment of data were discussed in this chapter. The presentation of this data provides background for the interpretation of the results.

CHAPTER IV

INTRODUCTION

It was the purpose of this research project to determine if the teaching of "story schema" and the use of story schema general questions had a positive effect on reading comprehension.

The researcher introduced the concepts of story grammar to 33 fifth grade students by teaching them the elements of story. The subjects identified, analyzed story elements through the reading of short narratives. They wrote their own story elements to assist in the internalization of the process. Following are the results.

Results

To see if the story grammar lessons were affective, pre and post-test scores on the story grammar criterion test were subjected to an analysis of variance, repeated measures design, with sex and reading achievement as main effects.

According to the ANOVA source information in Table 2, only the difference from pre-to post-test was significant, $F(1,29) = 32.31$, $p < .001$. The main effect of level of reading achievement was approaching significance at the .06 level.

Table 2

Repeated Measures Analysis of Variance for Story Grammar Test:

Sex x Reading Achievement x Trials

Source	SS	DF	MS	F	SIGNIFICANCE
Sex	0.101	1	0.101	0.062	over 0.500
Reading Achievement	6.290	1	6.290	3.843	0.060
Sex x Reading Achievement	0.691	1	0.691	0.422	over 0.500
Within	47.466	29	1.637	not tested	
Trials	34.648	1	34.648	32.318	under 0.001
Sez x Trials	0.019	1	0.019	0.018	over 0.500
Reading Achievement x Trials	1.784	1	1,784	1.664	0.208
Sex x Reading Achievement x Trials	0.337	1	0.337	0.314	over 0.500
Trials x Within	31.091	29	1.072	not tested	
Total	122.428	65	1.884		

Table 3 shows the boys' and girls' means for the pre-and post-tests. While the girls went from 3.51 wrong on the pretest to 1.93 wrong on the post-test, the boys performed similarly, going from 3.39 wrong on the pretest to only 1.89 wrong on the post-test. Apparently sex was not a factor.

Table 3

Means for Boys and Girls in the Story Grammar Tests

Sex			Pretest	Posttest	Total
Female	(N=21)	Mean	3.535	1.933	2.719
Male	(N=12)	Mean	3.386	1.886	2.636
Total		Mean	3.445	1.909	2.677

Table 4 shows the means for the two achievement groups by pre- and post-test. The high group went from a pre-test mean of 3.29 wrong to a post-test mean of only 1.41 wrong; the low group went from a pre-test mean of 3.60 wrong to a post-test mean of 2.41 wrong. Although the F ratio of 3.84 was significant at only the .06 level, the trend seems to indicate that the program benefitted the high achievement group more than the low.

Table 4

Means for the Two Groups on the Story Grammar Tests

		Pretest	Posttest	Total
Reading Achievement				
High (N=15)	Mean	3.292	1.408	2.305
Low (N=18)	Mean	3.445	2.411	3.004
Total	Mean	3.445	1.909	2.677

Discussion

In the analysis of the pre- and post test data most all students made a significant improvement after being taught story grammar. Since both girls and boys improved as a result of the story grammar treatment, we can state that there was no significant relationship between the sexes.

In analyzing the reading achievement of the subjects, students with higher reading achievement did significantly better and benefitted more from the methodology than students with a lower reading achievement. These findings can be compared in some way to the (Dreher & Singer, 1980) study which statistically demonstrated that better readers generally recalled more than poorer readers.

Singer & Donlan (1982) found that when students used story schema general questions and generated their own story specific questions, comprehension improved significantly among all their students.

Pearson (1982) states in his research that questions that concentrate on story elements and structure contribute to better understanding and reading comprehension.

The findings of this study achieved similar results to the Singer & Donlan (1982) study which showed an overall improvement in reading comprehension as a result of using story schema general and specific question.

CHAPTER V

SUMMARY

Standardized test results indicate a need to improve reading comprehension. It is therefore suggested, as a result of this study, to use as a methodology story grammar and schema general questions to improve reading comprehension.

Reading becomes meaningful if there is understanding between the reader and the text and if the reading is in some way related to the individual's cognitive structure or schema.

The development of story grammar by (Rumelhart, 1975; Stein & Glenn, 1978; Mandler & Johnson, 1977) and others provided a basis for understanding a story through its structure. The various story elements: settings, initiating event, internal response, attempt, consequence and reaction form a thread which connects the discourse and provides organization for the story.

The appropriate use of questions plays an important role in reading comprehension. Questioning based on story structure aids in the understanding and recall of information. The use of schema general questions facilitates comprehension and helps students internalize the story structure.

Major Conclusions

The conclusions that can be drawn from this study are:
1. When story grammar is taught with story schema related questions, reading comprehension improves.

2. Children with higher reading achievement levels do significantly better with the "story schema" approach than children with lower levels of reading achievement.

Recommendations

Teachers should become familiar with the ideas of schema and story grammar and apply these concepts to the everyday teaching of reading.

Reading specialists, staff developers and supervisors should become familiar with concepts of schema, schema questioning and story grammar in order to assist the classroom teacher in the appropriate use of the methodology.

In introducing the various story elements to the subjects, the researcher required students to write original examples of story categories. Writing skills could be integrated and developed within the story grammar methodology. An evaluation of writing skills based on a pre-and post writing sample should be made. The relationship between writing as it relates to story structure, may have an overall effect on the total reading process.

Authors of reading text books should consider using schema general questions as it relates to the stories in addition to the traditional approach.

Parents and the home environment play an important role in the development of a childs ability to process language and read. The more a child is read to, the easier it becomes for that child to be able to predict events in

stories and develop a sense of story. Reading to children broadens their cognitive base and provides a variety of schemas for many situations.

Educators and parents alike should be cognizant of the story schema theory and its effect on reading comprehension.

APPENDIX A

Pretest - Posttest

Directions: Circle the correct answer.

1. Who was the leading character?

   A. the fisherman
   B. the worm
   C. Albert

2. How does the story begin?

   A. Albert swims away from the fisherman
   B. Albert swims around the pond
   C. Albert sees a man

3. What does the main character seem to want?

   A. a fish
   B. a hook
   C. a worm

4. What do you know about Albert now?

   A. Albert loves worms
   B. Albert is a good diver
   C. Albert is greedy

5. What does Albert do to get what he wants?

   A. Albert plays with the worm
   B. Albert bit the worm
   C. Albert swims to the edge of the pond

6. What does Albert's actions tell you?

   A. Albert makes decisions and carries them out
   B. Albert is afraid
   C. Albert likes to swim near the surface

7. What gets in Albert's way?

   A. the boat
   B. another fish
   C. a fisherman

8.What happened to Albert?

A. he swam away

B. he was caught by the fisherman

C. he bumped into the boat

9. Is Albert successful in getting what he wants?

A. yes

B. no

C. can't tell

10. Did getting what he wanted make Albert happy?

A. yes

B. no

C. can't tell

11. Albert could have prevented being caught by:

A. being greedy

B. ignoring the worm

C. swimming very quickly around the worm

12. This story shows Albert's struggle with:

A. himself

B. nature

C. other people

APPENDIX B

Albert Gets Caught (Stein & Glenn, 1979)

Once there was a big gray fish named Albert

He lived in a big icy pond near the edge of a forest

One day, Albert was swimming around the pond.

Then he spotted a big juicy worm on top of the water.

Albert knew how delicious worms tasted.

He wanted to eat that one for his dinner.

So he swam very close to the worm.

Then he bit into him.

Suddenly, Albert was pulled through the water into a boat.

He had been caught by a fisherman.

Albert felt sad.

He wished he had been more careful.

APPENDIX C

Story Structure Chart

1. Setting
   - A. Where does the story take place?
   - B. Who are the main characters of the story?
   - C. When does the story take place?
   - D. Is there any other information that helps us get the picture of what things are like at the beginning of the story?
2. Goal
   - A. What is the main goal or purpose of the main character?
   - B. Is there any other information about the main character's goal? Maybe the story explains the reason the main character wants the goal?
3. Plot
   - A. How does the main character try to get the goal?
   - B. Something happens. What does the main character do?
   - C. How does it turn out?
   - D. Is there any other information about the first try?
   - E. Second try
     1. Main character makes a new plan to get the goal.
     2. Main character trys a new plan
     3. How did it turn out?
     4. Is there any other information about the second try?

4. Ending

A. Did the main character get the goal?

B. Is there any other information about the way the story ended?

(Dreher & Singer, 1980)

APPENDIX D

Categories Included in a Simple Story (Stein, 1979)

Category	Definition
Setting	Introduction of the protagonist can contain information about physical, or temporal context in which the remainder of the story occurs.
Initiating event	An action, or internal event, or a natural occurrence which serves to cause a response in the protagonist.
Internal response	An emotion, cognition, or goal of the protagonist.
Attempt	An overt action to obtain the protagonist's goal.
Consequence	An event, action, or endstate which marks the attainment or nonattainment of the protagonist's goal.
Reaction	An emotion, cognition, action or endstate expressing the protagonist's feelings about his goal attainment or relating the broader consequential realm of the protagonist's goal.

APPENDIX E

Schema-General Questions

I. The leading character

A. Who is the leading character?

B. What action does the character initiate?

C. What do you learn about the character from this action?

II. The Goal

A. What does the leading character appear to be striving for?

B. What do you learn about the character from the nature of the goal.

C. What course of action does the character take to reach the goal?

D. What do you learn about the character from the course of action chosen?

III. The obstacles

A. What is the first obstacle the character encounters?

1. How does the character deal with this obstacle?

2. Does the character alter the goal because of this obstacle? How?

3. What do you learn about the character from the way the obstacle is dealt with?

B. What is the final obstacle the character encounters?

1. How does the character deal with this obstacle?
2. Does the character alter the goal because of this obstacle?
3. What do you learn about the character from the way the obstacle is dealt with?

IV. The outcome

A. Does the character reach the original goal or the revised goal or no goal?

B. If the character is successful what helped most?

1. Forces within character's control? Which ones?
2. Forces outside character's control? Which ones?

C. If the character is defeated, which hindered the person most?

1. Forces within the person's control which weren't dealt with?
2. Forces outside the person's control which weren't dealt with?

V. The theme

This story basically shows a persons struggle with...

A. himself or herself

B. nature

C. other people

(Singer & Donlan, 1982)

APPENDIX F

Melvin, The Skinny Mouse

Setting	1. Once upon a time there was a skinny mouse named Melvin
	2. who lived in a big red barn.
Initiating Event	3. One day, Melvin found a box of rice crispies underneath a stack of hay.
	4. Then he saw a small hole in the side of the box.
Internal Response	5. Melvin knew how good the cereal tasted
	6. and wanted to eat just a little bit of the ceral.
Internal Plan	7. He decided to get some sugar first
	8. so that he could sweeten his cereal.
Attempt	9. Then Melvin slipped through the hole in the box
	10. and quickly filled his cereal bowl.
Direct Consequence	11. Soon Melvin had eaten every bit of the rice crispies
	12. and had become very fat.
Reaction	13. Melvin knew he had eaten too much
	14 and felt very sad.

(Stein & Glenn, 1979)

APPENDIX G

Epaminondas: Sample Story Narrative

1. Once there was a little boy
2. who lived in a hot country.
3. One day his mother told him to take some cake to his grandmother.
4. She warned him to hold it carefully
5. so it wouldn't break into crumbs.
6. The little boy put the cake in a leaf under his arm
7. and carried it to his grandmother's.
8. When he got there
9. the cake had crumbled into tiny pieces.
10. His grandmother told him he was a silly boy
11. and that he should have carried the cake on top of his head
12. so it wouldn't break.
13. Then she gave him a pat of butter to take back to his mother's house.
14. The little boy wanted to be very careful with the butter
15. so he put it on top of his head
16. and carried it home.
17. The sun was shining hard
18. and when he got home
19. the butter melted.
20. His mother told him that he was a silly boy
21. and that he should have put the butter in a leaf
22. so that he would have gotten home safe and sound.

Stein & Glenn, 1979

APPENDIX H

Lesson Plan

Objective: Given an example of the setting from the story Melvin the Skinny Mouse, the students will be able to discuss the elements of setting and then write an example to illistrate setting in a story.

Motivation: Teacher gives examples of settings form two famous fairy tales: Cinderella and Little Red Riding Hood. Teacher elicits from the students the elements of setting.

Procedure:

1. Students are asked to read the first two lines of Melvin the Skinny Mouse. The elements of setting are discussed and analyzed.
2. Students are asked to find examples of setting in their readers.
3. Students are asked to write examples of setting. Examples are read in class.

Summary: The elements of setting were restated by the students in the class.

Note: Lessons introducing the various story elements followed the same pattern.

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